

# ABSTRACT OF THE DISCLOSURE

Reproduction signals include patterns for which recognition errors are likely. With respect to such patterns, probable error patterns are prepared. Tables  
5 showing correct patterns and error patterns are prepared, and evaluation values accurately representing signal quality are calculated. In an apparatus using a PRML method, discrimination data and a plurality of predetermined bit sequence pairs are examined to detect  
10 matching. A bit sequence and corresponding two ideal responses are calculated. Euclidean distances between the two ideal responses and equalization signals are obtained, and the difference between the Euclidean distances is further obtained. A quality evaluation  
15 value of a reproduction signal is calculated based on a mean value, a standard deviation, an appearance probability of the predetermined bit sequence, and a Hamming distance between the predetermined bit sequence pairs.